



UNITED STATES PATENT AND TRADEMARK OFFICE

AT

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,457	03/19/2001	Derk Jan Adelerhof	PHN 17,556	2203

24737 7590 01/11/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

GUERRERO, MARIA F

ART UNIT PAPER NUMBER

2822

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,457

Applicant(s)

ADELERHOF ET AL.

Examiner

Maria Guerrero

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-13,15-17 and 20 is/are rejected.
- 7) ☒ Claim(s) 2,6,7,14,18 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed July 20, 2004 and the Request for continued examination filed October 21, 2004.

Status of Claims

2. Claims 1-20 are pending.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 21, 2004 has been entered.

Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

Art Unit: 2822

- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-5, 8-13, 15-17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Gallagher et al. (US 5,650,958) (of record).

Gallagher et al. teaches a method of manufacturing a magnetic tunnel junction device (Abstract). Gallagher et al. shows a stack comprising two magnetic layers and a barrier layer extending in between (Fig. 4A-4D and 8A-8H). Gallagher et al. discloses one of the magnetic layers is structured by etching, during etching a part of the structure layer is thinned by removing material to provide a rest layer (Fig. 4A-4D and 8A-8H col. 5, lines 19-25, col. 10, lines 1-30). Gallagher et al. teaches, in a broad interpretation, the electrical resistance of the rest layer being increase by chemical conversion (Fig. 5A, col. 6, lines 39-67, col. 7, lines 1-22).

Furthermore, Gallagher et al. describes the magnetic junction device comprising a basic layer and a layer structure comprising at least a further layer for magnetic pinning the basic layer (Abstract, Fig. 4A-4D). Gallagher et al. teaches ion milling (chemically and physically etching) the magnetic layer (col. 5, lines 19-25, col. 10, lines 1-30). Gallagher et al. discloses the magnetic layer to be structure is built up from a basic layer and a layer structure comprising at least a further layer for magnetic pinning of the basic layer (Fig. 4A-4D, 8A-8H). Gallagher et al. shows a magnetic tunnel junction device having a soft-magnetic layer that is usable (capable of) as a flux guide (col. 4, lines 55-65). Gallagher et al. inherently teaches a magnetic field sensor having a magnetic yoke that is in magnetic contact with the soft-magnetic layer of the magnetic tunnel junction device (Abstract, col. 3, lines 55-67, col. 4, lines 1-67).

In addition, the elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

6. Claims 1, 8, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Brug et al. (US 6,727,105).

Brug et al. teaches a method of manufacturing a magnetic tunnel junction device for a magnetic memory device (Abstract). Brug et al. shows a stack comprising two magnetic layers and a barrier layer extending in between (Fig. 2, col. 3, lines 37-67, col. 4, lines 1-13). Brug et al. discloses one of the magnetic layers is structured by etching, during etching a part of the structure layer is thinned by removing material to provide a rest layer (Abstract, Fig. 6, col. 2, lines 10-26, col. 4, lines 64-67, col. 6, lines 60-67, col. 7, lines 1-58). Brug et al. teaches the electrical resistance of the rest layer being increase by chemical conversion (col. 2, lines 60-65, col. 5, lines 60-63).

7. Regarding claims 8-12, 15-17, and 20, product-by-process claims are limited and defined by the process; determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. In re Hirao and Sato et al., 190 USPQ 15 at 17 (CCPA 1976 (footnote 3)). See also IN re Brown and Saffer, 173 USPQ 685 (CCPA 1972); In re Luck and Gainer, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); In re Marosi et al., 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Allowable Subject Matter

8. Claims 2 and 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 18-19 would be allowable if rewritten as process claims because the process steps are considered to be allowable subject matter in combination with the recitations of the independent process claim 1.

The following is a statement of reasons for the indication of allowable subject matter: in the examiner's opinion would not have been obvious to a person of ordinary skill in the art to modify the references in order to meet the oxidation or nitridation of the rest layer as claimed in combination of the rest of the limitations in the claims because there is not motivation or suggestion.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 3-5, 8-17, and 20 have been considered but are moot in view of the new ground(s) of rejection.

In addition, during patent examination, the pending claims must be "given *>their< broadest reasonable interpretation consistent with the specification." > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). While the claims

Art Unit: 2822

of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. > In re American Academy of Science Tech Center, F.3d , 2004 WL 1067528 (Fed. Cir. May 13, 2004)(The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.) < This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) >; Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kamiguchi et al. (U.S. 5,949,622) teaches a magnetic tunnel junction device. Folkerts et al. (EP 0594243 A2) and Folkerts et al. (WO 97/16823) are cited as evidence to show that the soft-magnetic layer is usable as a flux guide and the magnetic field sensor having a magnetic yoke that is in magnetic contact with the soft-magnetic layer of the magnetic tunnel junction device is inherently disclosed by Gallagher et al. (US 5,650,958).

Art Unit: 2822

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 7, 2005

Maria Guerrero
MARIA F. GUERRERO
PRIMARY EXAMINER